

CLAIM AMENDMENTS

27-30. (Canceled)

31. (Currently amended) A method for separating different charged particles in moving charged particles through a medium employing an electrical field, said method comprising:  
providing a device comprising (a) a substrate having an upper surface, (b) a main trench in the substrate extending downward from the upper surface, and (c) a plurality of electrodes positioned at intervals, including at each terminus, along the trench such as to be in electrical contact with a medium when present in the trench, the plurality of electrodes being connected to an electronic computer programmed to sequentially activate electrodes to provide an electrical field waves that move profile along the trench at a speed to move charged particles, and (d) an optical detection device positioned along the trench to detect charged particles in the medium in the trench, the optical detection device being interactive with the electronic computer so that the speed of the electrical field waves can be adjusted based on charged particles detected by the optical detection device;

placing a sample of the charged particles into the medium in the device; and  
separating the different charged particles by electrical field waves having speeds determined by the electronic computer in interaction with the optical detection device.

~~applying a voltage from a voltage source across each adjacent pair of electrodes of a magnitude such that the electrical field generated across the plurality of electrodes is larger than that achieved in applying a voltage from the voltage source across the electrodes positioned at each terminus of the main trench.~~

32. (Previously presented) The method of claim 31, wherein said substrate is an organic polymer solid substrate.

33. (Previously presented) The method of claim 32, wherein said organic polymer solid substrate is polymethylmethacrylate, polycarbonate, polyethylene terephthalate, or polystyrene.

34. (Previously presented) The device of claim 32 wherein said organic polymer solid substrate has a substantially uncharged surface.

35. (Previously presented) The device of claim 31 wherein said main trench has capillary dimensions.

36. (Previously presented) The method of claim 31, wherein said intervals are between 1 and 100 microns in distance.

37. (Previously presented) The method of claim 31, wherein said intervals are regular intervals.

38.-46. (Canceled)